
Installation and configuration

This chapter describes the installation of the Meridian Integrated Conference Bridge (MICB) card. It describes how to install the MICB and how to connect it to a terminal for OA&M access. It also describes the basic MICB card configuration procedures.

Quick reference to MICB installation and configuration

If you are familiar with the MICB operation and general Meridian 1 installation practices, follow the steps below to speed up the installation of the MICB and its external connections:

- 1** Take inventory of the MICB equipment by comparing the received equipment against the shipping documents.
- 2** Identify the card slot(s) in the IPE module or Option 11C or 11E cabinet where to install the MICB card(s).
- 3** If you are planning to utilize an Ethernet interface, install the NT5D52AA Ethernet Adapter card onto the IPE module I/O panel or the NT5D52BA into Option 11C/11E tip/ring connector cutout. Refer to “Installing the Ethernet Adapter card” on page 85.
- 4** Install the MICB card(s) in the designated card slot(s). For available card slot locations, refer to Table 2 “MICB installation card slots in different PE modules” on page 25.
- 5** Connect the maintenance terminal to the MICB.
 - Refer to “Connecting the terminal to an MICB card in the IPE module” on page 86 and select the appropriate connection option based on your requirements.
 - Refer to “Connecting the terminal to Option 11E or 11C cabinet” on page 92 and select the appropriate connection option.

- 6** Configure the MMI terminal interface parameters. Refer to “Configuring the MMI terminal for OA&M access” on page 100.
- 7** Configure the MICB card(s) using the system TTY. Refer to “MICB configuration” on page 96.
- 8** Login as an administrator and enter the keycode, if not already entered.
 - Refer to “User login” on page 33 and
 - Refer to “Functionality Upgrade” on page 61 for keycode entry.
- 9** Verify that the PCMCIA hard drive is installed and properly seated.
- 10** Clear the initial screen from any dummy conference scheduling that might have been left in from MICB factory or lab testing. To do this:
 - Refer to “Bridge Allocator” on page 43 to delete bridge data.
 - Refer to “Conference Reservation” on page 64 to delete a conference scheduled for the future, or
 - Refer to “Meeting Terminate” on page 73 to delete a currently active conference.
- 11** Specify CDNs to be used by the MICB for conference scheduling. Refer to:
 - Specify system DNs as CDNs using the system TTY and overlay LD 23 as described in “Defining CDN data blocks” on page 98.
 - Assign these CDNs to conference using the “CDN Editor” on page 42.
- 12** If you are using ACD scheduled data blocks, then the agent IDs must be defined in the MICB system attributes menu as described in “System Attribute Editor” on page 39. Note that the agents IDs must be consecutive numbers within the lower and upper limit starting with the number assigned to the first agent ID.
- 13** If you are connected to the Ethernet, obtain the IP address for the MICB from the network provider and enter the IP address using the “System Attribute Editor” on page 39.
- 14** Proceed with the Main Menu in the MICB administration chapter to schedule conferences, establish bridges, and perform administration tasks.

Installation overview

The MICB service can be added to existing Meridian 1 system options 21E, 51, 51C, 61, 61C, 71, 81, and 81C as well as Option 11E/11C and SL-1 systems that supports IPE cards, originally installed and operating without MICB, or it can be an integral part of a newly installed Meridian 1 system.

The MICB can be installed into:

- A previously installed Meridian 1 system upgraded to run on generic software X11 release 22 or higher to be able to support all 32 MICB ports, or X11 release 19 to 21 that support a maximum of only 16 MICB ports
- A newly installed system using the latest generic X11 software

To install a new Meridian 1 system or expand an existing one, refer to *Meridian 1 system installation procedures* (553-3001-210). It provides the information on how to install, verify, and maintain the Meridian 1 system.

To complete the installation of an MICB card, you should follow the general procedures listed below.

These procedures include:

- Preparing the site
- Unpacking, inspecting, and taking inventory of the equipment
- Installing the MICB card in the selected IPE card slot, if not already installed
- Installing the cables between the maintenance terminal and the IPE module I/O panel connector at the rear of the module

Installation preparation

The preparation consists of unpacking and inspecting components, taking inventory, and locating the IPE card slots where the MICB will be installed.

Unpacking and inspection

Unpack and inspect the equipment for damage. When unpacking, follow general precautions recommended by computer and telephone equipment manufacturers:

- Remove items that generate static charge from the installation site.
- Use antistatic spray if the site is carpeted.
- Ground yourself before handling any equipment.
- Remove equipment carefully from its packaging.
- Visually inspect the equipment for obvious faults or damage. Any damaged component must be reported to your sales representative and the carrier who delivered the equipment.

Taking inventory

After the equipment has been unpacked and visually inspected, verify that all the equipment is at the site before the installation begins. Equipment received must be checked against the shipping documents. Any shortages must be noted and reported to your sales representative.

MICB equipment installation

The installation of the MICB card and the external equipment connections associated with the MICB should start after:

- verifying that the preinstallation preparation has been completed (this includes verifying that all the equipment has been received undamaged)
- planning you MICB equipment, port configuration, and external equipment connection configuration using *Engineering guidelines* in the *Description* section of this document

Installing the Ethernet Adapter card

You do not have to install the Ethernet Adapter card unless you wish to connect the MICB to the Ethernet for multi-terminal access to the MICB.

To install the Ethernet Adapter card on to Option 11C/11E tip/ring connector:

- 1 Identify the 50-pin tip/ring connector at the bottom of the cabinet, which corresponds to the card slot position where the MICB will be installed.
- 2 Plug the 50-pin connector on the NT5D52BA Ethernet Adapter card into the 50-pin tip/ring connector on the Option 11C/11E cabinet.
- 3 Secure the Ethernet Adapter to the cabinet.

To install the Ethernet Adapter card on the IPE module I/O panel:

- 1 Remove the cover plate from the I/O panel at the rear of the IPE module.
- 2 Lift the I/O panel from the module by removing all the retaining screws.
- 3 Disconnect the backplane cable 50-pin connector from the I/O panel filter connector.
- 4 Remove the existing filter connector from the I/O panel and save the retaining screws. This filter connector corresponds to the card slot designated for the MICB card installation.
- 5 Install the NT5D52AA Ethernet Adapter card into the designated I/O panel connector cutout using the saved retaining screws.
- 6 Secure the I/O panel onto the module using the retaining screws previously removed. Replace the module's cover plate.

Installing MICB cards

When installing MICB cards, follow the steps below:

- 1 Identify the IPE card slots selected for MICB card(s). Refer to Table 2 "MICB installation card slots in different PE modules" on page 25.
- 2 Pull the top and bottom extractors away from the MICB faceplate.
- 3 Insert the MICB card into the card guides and gently push it until it makes contact with the backplane connector.

- 4 Push the top and the bottom extractors firmly towards the faceplate to insert the MICB card into the faceplate connector and to lock it firmly in place.
- 5 Ensure that the PCMCIA hard drive card is properly seated in the lower faceplate PCMCIA slot.
- 6 Observe the red LED at the top of the faceplate (the card LED). This LED should blink three times after the self-test is successfully completed and then stay ON until the MICB is software enabled.
- 7 Repeat steps 1 through 6 for each additional MICB card.

Connecting the terminal to an MICB card in the IPE module

The MICB terminal may be connected locally using a direct cable connection or remotely using a modem connection to provide OA&M access to the MICB card. The terminal can be connected to the MICB as a:

- local and direct connection from the I/O panel 50-pin connector using a cable and a nullmodem
- remote connection from the I/O panel 50-pin connector using a cable and a modem for remote access to the MICB
- local connection through the Ethernet Adapter card DB-9 connector using a cable and a nullmodem
- remote connection through the Ethernet Adapter card DB-9 connector using a cable and a modem for remote access
- remote multi-terminal access through the Ethernet Adapter card RJ-45 jack and a RJ45 modular cable to the Ethernet hub

Local and direct terminal connection

This connection is established from the I/O panel 50-pin connector through a cable and a nullmodem to the terminal. Refer to [Figure 14](#) for details.

- 1 Position the terminal on a desk near the system.
- 2 Plug the NT5D19AA cable 50-pin female connector into the 50-pin tip/ring connector on the I/O panel at the rear of the IPE module, which corresponds to the MICB card slot.

- 3 Plug the NT5D19AA cable DB-25 male connector into the DB-25 female connector of the A0601396 DB-25F/DB-25M nullmodem adapter. (If you require a female-to-female nullmodem, use A0601397 nullmodem).
- 4 Plug the DB-25 male connector of the A0601396 DB-25F/DB-25M nullmodem adapter into the terminal RS-232 connector. (If you require a female-to-female nullmodem, use A0601397 nullmodem).

Note: Refer to Connector pin assignments in Appendix A for details about the NT5D19AA cable pin assignments.

Remote terminal connection using a modem

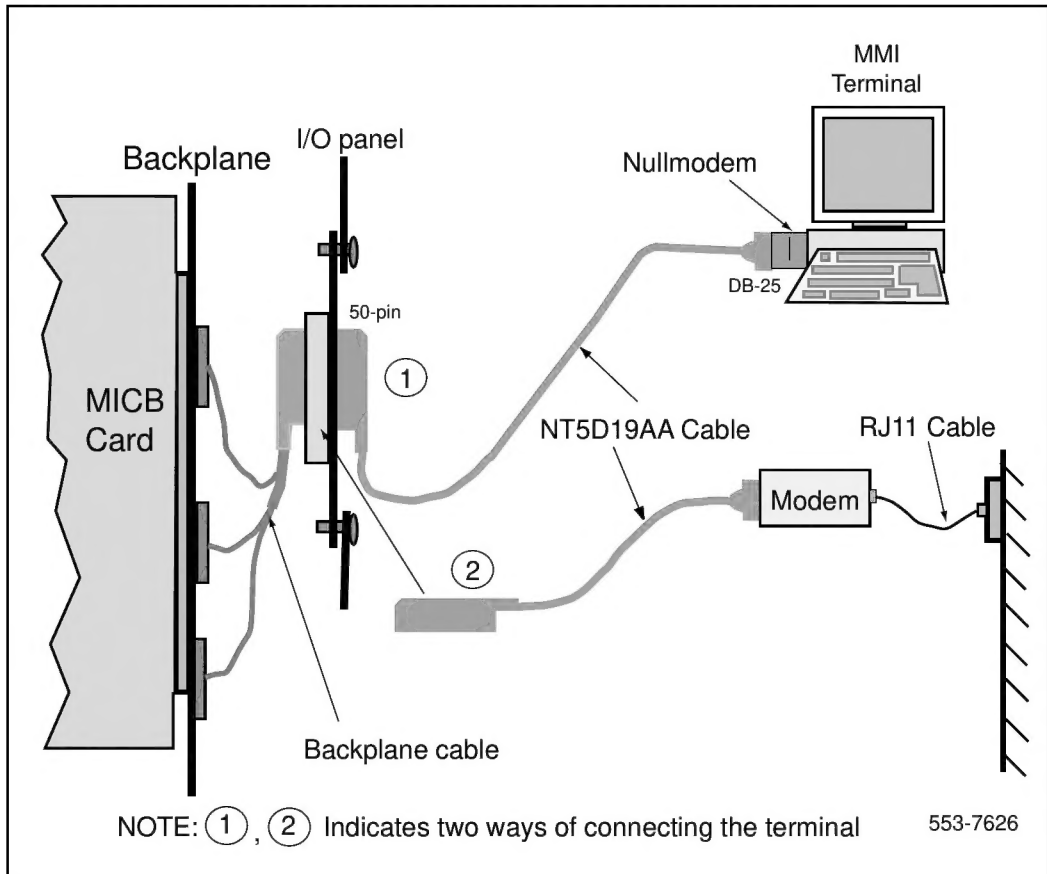
Remote connection from the I/O panel 50-pin connector using a cable and a modem allows you to access to the MICB remotely. Refer to [Figure 14](#) for details.

- 1 Plug the NT5D19AA cable 50-pin female connector into the 50-pin tip/ring connector on the I/O panel at the rear of the IPE module, which corresponds to the MICB card slot.
- 2 Plug the NT5D19AA cable DB-25 male connector into the DB-25 female connector on the modem.
- 3 Plug the modular modem cable RJ11 plug into the RJ11 jack on the modem.
- 4 Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

Note: Refer to Connector pin assignments in Appendix A for details about the NT5D19AA cable pin assignments.

Figure 14 illustrates two ways of connecting the MICB terminal. These are, the local direct connection or the modem connection to the 50-pin connector on the I/O panel.

Figure 14
Terminal connection to the IPE module I/O panel 50-pin connector



Direct terminal connection through Ethernet Adapter

To connect a local terminal through the NT5D52AA Ethernet Adapter card, connect the Ethernet Adapter DB-9 connector to the terminal using a direct cable. Refer to [Figure 15](#) for the connection illustration.

- 1 Position the terminal on a desk near the system.
- 2 Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in “Installing the Ethernet Adapter card” on page 85.
- 3 Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
- 4 Plug the DB-25 male connector at the other end of the A0601464 terminal cable, into the RS-232 connector on the terminal. (No nullmodem is required). If a gender changer is required, you may be able to obtain it at your local electronics store.

Remote terminal connection using Ethernet Adapter and modem

Remote terminal connection can be established by connecting the DB-9 Ethernet Adapter connector through a modem to a distant terminal. Refer to [Figure 15](#) for the connection illustration.

- 1 Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in “Installing the Ethernet Adapter card” on page 85.
- 2 Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
- 3 Plug the DB-25 male connector at the other end of the A0601464 terminal cable into the DB-25 female connector of the A0601396 DB-25F/DB-25M nullmodem adapter. (If you require a female-to-female nullmodem, use A0601397 nullmodem).
- 4 Plug the DB-25 male connector of the nullmodem adapter A0601396 DB-25F/DB-25M into the DB-25 female connector on the modem. (If you require a female-to-female nullmodem, use A0601397 nullmodem).
- 5 Plug the modular modem cable RJ11 plug into the RJ11 jack on the modem.
- 6 Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

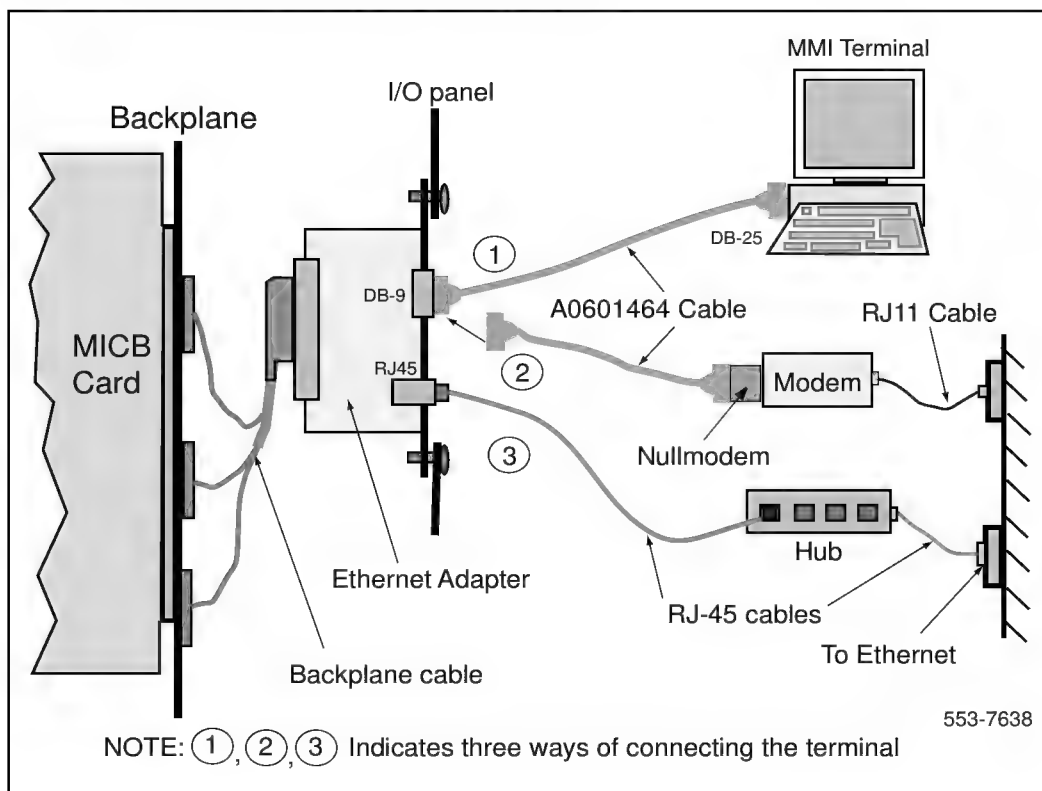
Remote multi-terminal connection through Ethernet

The MICB card can be accessed from one or more terminals from the Ethernet, if the MICB card is connected to the Ethernet through the NT5D52AA Ethernet Adapter card. [Figure 15](#) for the connection illustration.

- 1** Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in “Installing the Ethernet Adapter card” on page 85.
- 2** Plug the modular cable RJ-45 plug into the RJ-45 jack on the NT5D52AA Ethernet Adapter card.
- 3** Plug the RJ-45 plug at the other end of the modular cable, into the Ethernet hub.
- 4** Make the rest of the Ethernet connections as required using standard Ethernet connection rules.

Figure 15 illustrates the I/O connector bracket connection to the MICB, the terminal, and the Ethernet.

Figure 15
Terminal connection through the Ethernet Adapter



Connecting the terminal to Option 11E or 11C cabinet

The MICB terminal may be connected locally using a direct cable connection or remotely using a modem connection to provide OA&M access to the MICB card. The terminal can be connected to the MICB as a:

- local and direct connection from the tip/ring 50-pin connector using a cable and a nullmodem
- remote connection from the tip/ring 50-pin connector using a cable and a modem for remote access to the MICB
- local connection through the Ethernet Adapter card DB-9 connector using a cable and a nullmodem
- remote connection through the Ethernet Adapter card DB-9 connector using a cable and a modem for remote access
- remote multi-terminal access through the Ethernet Adapter card RJ-45 jack and a RJ45 modular cable to the Ethernet hub

Local and direct terminal connection

This connection is established from the tip/ring 50-pin connector through a cable and a nullmodem to the terminal. Refer to [Figure 14](#) for details.

- 1 Position the terminal on a desk near the system.
- 2 Plug the NT5D19AA cable 50-pin female connector into the 50-pin tip/ring connector on the Option 11C or 11E, which corresponds to the MICB card slot.
- 3 Plug the NT5D19AA cable DB-25 male connector into the DB-25 female connector of the A0601396 DB-25F/DB-25M nullmodem adapter.
- 4 Plug the DB-25 male connector of the A0601396 DB-25F/DB-25M nullmodem adapter into the terminal RS-232 connector. If a gender changer or a different nullmodem adapter is required, you may be able to obtain it in your local electronics store.

Note: Refer to Connector pin assignments in Appendix A for details about the NT5D19AA cable pin assignments.

Remote terminal connection using a modem

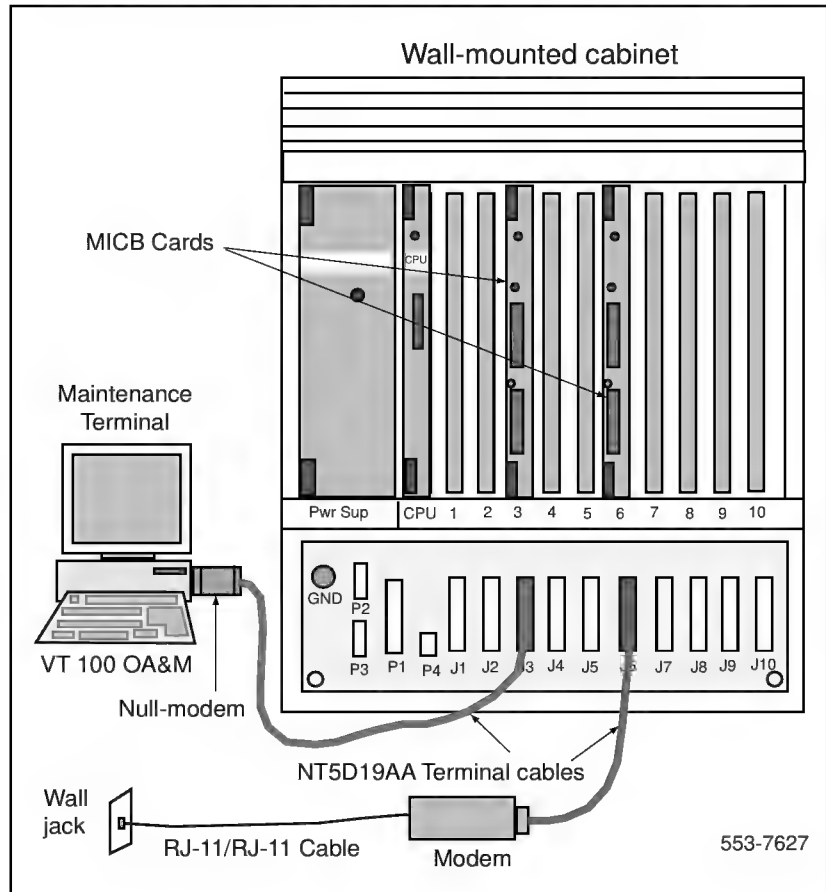
Remote connection from the tip/ring 50-pin connector using a cable and a modem allows you to access to the MICB remotely. Refer to [Figure 14](#) for details.

- 1** Plug the NT5D19AA cable 50-pin female connector into the 50-pin tip/ring connector on the Option 11C or 11E, which corresponds to the MICB card slot.
- 2** Plug the NT5D19AA cable DB-25 male connector into the DB-25 female connector on the modem.
- 3** Plug the modular modem cable RJ11 plug into the RJ11 jack on the modem.
- 4** Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

Note: Refer to Connector pin assignments in Appendix A for details about the NT5D19AA cable pin assignments.

Figure 16 shows the wall-mounted cabinet and the terminal connected to the 50-pin tip/ring connector at the bottom of the cabinet.

Figure 16
Maintenance terminal connection to the wall-mounted cabinet



Direct terminal connection through Ethernet Adapter

To connect a local terminal through the NT5D52BA Ethernet Adapter card on the Option 11C or 11E, connect the Ethernet Adapter DB-9 connector to the terminal using a direct cable. Refer to Figure 15 “Terminal connection through the Ethernet Adapter” on page 91 for the connection illustration.

- 1 Position the terminal on a desk near the system.
- 2 Verify that the NT5D52BA Ethernet Adapter card has been installed onto the Option 11C or 11E.
- 3 Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
- 4 Plug the DB-25 male connector at the other end of the A0601464 terminal cable, into the RS-232 connector on the terminal. (No nullmodem is required). If a gender changer is required, you may be able to obtain it at your local electronics store.

Remote terminal connection using Ethernet Adapter and modem

Remote terminal connection to the Option 11C or 11E can be established by connecting the DB-9 Ethernet Adapter connector through a modem to a distant terminal. Refer to Figure 15 “Terminal connection through the Ethernet Adapter” on page 91 for the connection illustration.

- 1 Verify that the NT5D52BA Ethernet Adapter card has been installed onto the Option 11C or 11E system.
- 2 Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.
- 3 Plug the DB-25 male connector at the other end of the A0601464 terminal cable into the DB-25 female connector of the A0601396 DB-25F/DB-25M nullmodem adapter. (If you require a female-to-female nullmodem, use A0601397 nullmodem).
- 4 Plug the DB-25 male connector of the nullmodem adapter A0601396 DB-25F/DB-25M into the DB-25 female connector on the modem. (If you require a female-to-female nullmodem, use A0601397 nullmodem).
- 5 Plug the modular cable RJ11 plug into the RJ11 jack on the modem.
- 6 Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

Remote multi-terminal connection through Ethernet

The MICB card on the Option 11C or 11E can be accessed from one or more terminals from the Ethernet, if the MICB card is connected to the Ethernet through the NT5D52AA Ethernet Adapter card. Refer to Figure 15 “Terminal connection through the Ethernet Adapter” on page 91 for the connection illustration.

- 1** Verify that the NT5D52BA Ethernet Adapter card has been installed into the Option 11C or 11E.
- 2** Plug the modular cable RJ-45 plug into the RJ-45 jack on the Ethernet Adapter card.
- 3** Plug the RJ-45 plug at the other end of the modular cable, into the Ethernet hub.
- 4** Make the rest of the Ethernet connections as required using standard Ethernet connection rules.

MICB configuration

Now that you installed the MICB card(s) and connected the terminal, you can proceed with MICB card configuration.

Configuring MICB using the system TTY

To configure an MICB card:

- 1** Define CDN blocks, respecting the above restrictions. The default ACD DN in all CDN blocks of an MICB card should be the ACD DN defined in the ACD block.
- 2** Define each MICB port as a digital telephone set M2616. MICB ports are defined as ACD agents in the ACD data block. The digital set keys should be defined as follows:
 - Key 0 - ACD
 - Key 1 - Single Call Ringing (SCR) with a dedicated DN
 - Key 2 - Not Ready (NRD)
 - Key 3 - Make Set Busy (MSB)

Agent IDs must be defined in the MICB system attributes menu as consecutive numbers within the lower and upper limit. Refer to “System Attribute Editor” on page 39.

Defining the ACD data block

To configure the ACD data block, load LD 23 using the system TTY and enter the appropriate responses to the prompts as listed in [Table 11](#).

Table 11
Defines an ACD data block

Prompt	Response	Description
REQ	NEW	New control data block
TYPE	SBC or ADS	To print ACD report scheduling data block To print auxiliary data system data block (This allows you to select an available block of number to be used as agent IDs within the upper and lower limit of the numbers block.)
TYPE	ACD	ACD data block
CUST	0-99	Customer number
ACDN	<ACDDN>	ACD directory number
MAXP	32	Maximum number of ACD agent positions

Defining CDN data blocks

This defines the control DN assigned to each conference and each chairperson associated with each conference.

[Table 12](#) shows the CDN data block configuration using the Automatic Call Distribution (ACD) program LD 23.

Table 12
Configuring the MICB Control DNs using LD 23

Prompt	Response	Description
REQ	NEW	New control data block
TYPE	CDN	Control DN data block
CUST	0-99	Customer number
CDN	<CDN#>	Control directory number
DFDN	<ACDDN>	Local ACD DN
Note: Repeat commands in this table for each CDN you wish to configure, up to the required number of CDNs.		

Note: The number of CDNs defined for each MICB card depends on the number of conferences and bridges specified on the card. A maximum of 10 conferences can be configured requiring 20 CDNs; two for each conference. One CDN is used by the conferees to call in and one CDN is for the conference chairperson.

Defining MICB ports as digital sets

Each MICB port represents an ACD agent with the digital set 2616. [Table 13](#) shows how to use Multi-line Telephone Administration program LD 11 to configure these features.

Table 13
Configuring MICB ports as digital sets using LD 11

Prompt	Response	Description
REQ	NEW	Add a new data port
TYPE	2616	Digital telephone set M2616
TN	l s c u	Terminal number
CUST	0-99	Customer number
CLS	FLXA, VCE, WTA	ACD agent (FLXA can be used with X11 rel 22 and up for ports 16 through 31) Note
KEY	0 ACD <ACDDN> 0-99 <pos ID> (any DN)	ACD DN plus position ID
KEY	1 SCR <DN>	Line key
KEY	2 NRD	Not ready key
KEY	3 MSB	Make set busy key
Note: The administrator should consider chairperson dial-out restrictions through the MICB ports to prevent international dial-out.		

Note: Number of virtual ACD agents of the ACD queue is equal to the number of MICB ports. Example; if 12 ports are enabled, you must define 12 ACD agents. If the TN for the MICB is specified as 28 0 6, then TNs for the 12 agents are specified as 28 0 6 0 through 28 0 6 11.

Enabling the MICB card

To enable the MICB, load the Network and PE Diagnostic program LD 32 into the system memory using the system TTY to execute the **ENLC l s c** command, where **l** is the loop, **s** is the module or shelf, and **c** is the card to be enabled.

Configuring MICB using the MMI terminal

After the configuration of the MICB parameters, using the system TTY, you can proceed with the MICB administration by using the MICB MMI terminal. Before you can proceed with conference administration, you have to:

- 1 Configure the terminal.
- 2 Enter the keycode, if not already entered.
- 3 Login as an administrator.
- 4 Define a group of CDNs that will be used by the MICB (specify CDNs that already exist in Meridian 1).
- 5 Using the terminal, you can proceed with conference scheduling and MICB administration.

Note: The *MICB Administration* chapter describes the use of the terminal in configuring and administering of all MICB conference functions.

Configuring the MMI terminal for OA&M access

To access the administration and configuration menus you have to use a terminal. Specify the VT-100 type terminal interface characteristics to ensure compatibility with the MICB RS-232 interface.

Set the interface parameters as follows:

- Transmission speed; 9600 bps
- Data bits: 8
- Stop bit: 1
- Parity: No
- Flow control: none

Note: Do not use XON/XFF flow control.

MICB password security

To protect functional and software upgrades, the MICB provides *Protected Administration* menu accessible on the administration terminal. This menu allows you to edit passwords and perform functional and software upgrades.

For details of how to upgrade the MICB functions and software, go to the *MICB Administration* chapter of this document and access the *Protected Administration* menu.

Chairperson tasks

Each conference has a chairperson who is in charge of the conference events. If you dial in as a chairperson, you can perform several functions using your telephone set keys. To become a chairperson, you must be the first to dial the chairperson CDN. The chairperson CDN is defined in *Conference Reservation* in the *Conference Administration* menu using the MICB terminal.

Commands a chairperson can execute during a conference are listed in [Table 14](#) below.

Note: When chairperson dials out to an other MICB conference, two ports are being used, the dial out port of this MICB and the dial in port of the other conference MICB. These two ports are not automatically disconnected, therefore the chairperson must disconnect the dial out port before leaving the conference.

[Table 14](#) lists conference commands that are executed on the telephone set while the conference is in progress.

Table 14
Conference commands

Chairperson Command	Description
*0<DN>#	Dials out to a DN (called party directory number, which is not a conference participant)
*0#	Dials out to the assistant DN
*#	Redials last dialed DN
*1	Not used
*2	Returns to the conference with dialed party
*3	Returns to the conference without dialed party
*4	Locks the conference
*5	Unlocks the conference
*6	Counts conferees
*90	Drops all ports except the chairperson's port
*91	Drops the last dialed-out port
*92	Drops the last dialed-in port
*99	To stop or start the initial conference music by the chairperson. This is possible only when the chairperson is the first person joining the conference. First entry stops it, the second entry starts it.
Conferee command	Description
*	To stop or start the initial conference music by the first conferee that joins the conference.